

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Schallner et al.

Serial No. : 09/194,261

Filed : May 13, 1999

For : SUBSTITUTED SULFONYLAMINO(THIO)CARBONYL COMPOUNDS  
AND THEIR USE AS HERBICIDES

Group Art Unit : 1626

Examiner : Kamal A. Saeed

Hon. Commissioner of Patents and Trademarks  
Washington, D. C. 20231

DECLARATION

I, Mark Wilhelm Drewes of Goethestr. 38, 40764 Langenfeld, a citizen of Germany hereby declare:

that I am a chemist having studied at the University of Natal (Pietermaritzburg), South Africa;

that I received the degree Dr. rer. nat. at the University Philipps-Universität Marburg;

that I entered the employ of Bayer Aktiengesellschaft, Leverkusen in 1989, where I am still employed in the department of biological research;

that I have specialized in the field of plant protection and chemical research;

that the following tests have been carried out under my supervision and control:

The test results have been obtained as described essentially in the Use Examples A and B of the instant specification.

Application rates, test compounds, test plants and the observed results are listed in the tables to follow.

Table A-1

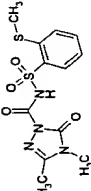
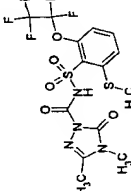
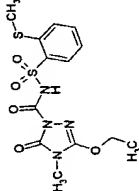
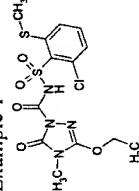
pre-emergence / greenhouse	g ai/ha	Alopecurus	Avena fatua	Cyperus	Amaranthus	Galium
according to formula (I) of US 5,057,144	250	40	0	0	60	0
						
invention						
according to formula (I)	250	80	80	90	80	90
						

Table A-2

pre-emergence / greenhouse	g ai/ha	Barley	Wheat	Corn	Digitaria	Amaranthus	Solanum
according to formula (I) of US 5,057,144	60	60	60	70	60	70	70
							
invention							
Example 1	60	0	0	0	95	90	95
							

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Table A-3

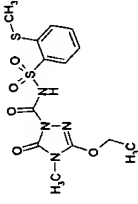
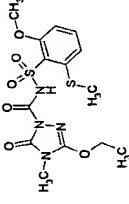
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Wheat	Soy beans	Sorghum	Abutilon	Polygonum	Stellaria	Viola
	30	30	80	60	0	0	30	70
invention	30	0	0	100	95	95	100	100
Example 20 								

Table B-1

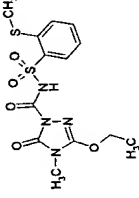
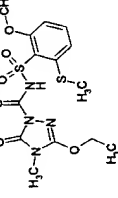
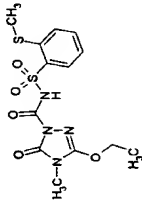
post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Alopecurus	Sorghum	Datura	Ipomoea	Matricaria
	60	60	80	50	0	70
invention Example 20 	60	95	100	95	95	100

Table A-4

pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Barley	Wheat	Alopecurus	Amaranthus	Solanum
	30	60	30	80	70	70



invention Example 35 30 0 0 95 95 95

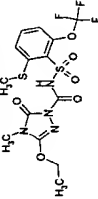
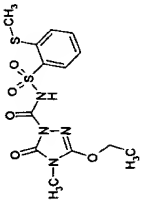


Table B-2

post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Wheat	Sorghum	Ipomoea	Matricaria
	60	20	80	0	70



invention Example 48 60 5 100 90 95

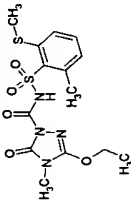


Table B-3

post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Alopecurus	Sorghum	Datura	Ipomoea	Matricaria
	60	60	80	50	0	70

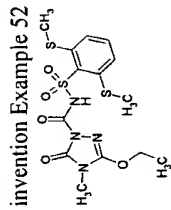
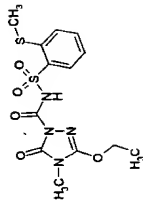
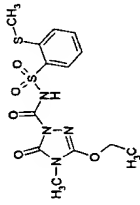


Table B-4

post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Wheat	Abutilon	Cassia	Ipomoea	Matricaria
	60	20	50	50	0	70



Invention Example 119

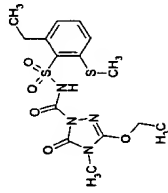
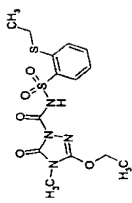
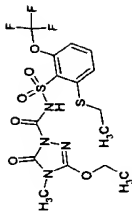


Table A-5

pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Corn	Alopecurus	Lolium	Ipomoea	Stellaria	Viola
	125	95	95	80	50	80	80

invention Example 6



125	0	100	100	90	100	100
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Table B-5

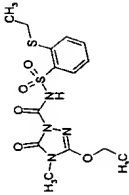
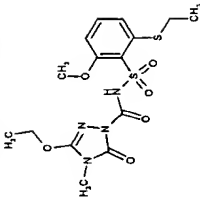
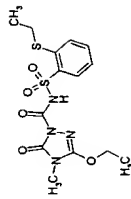
post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Wheat	Alopecurus	Lolium	Sorghum	Datura	Ipomoea
	30	10	30	0	50	20	30
invention Example 7 	30	5	90	90	95	90	95



Table A-6

pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Barley	Corn	Sorghum	Chenopodium	Galium	Matricaria
	60	50	70	80	70	70	70



invention Example 11

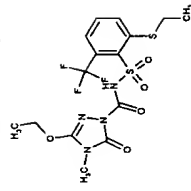
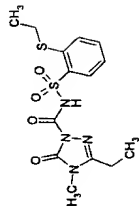


Table A-7

pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Corn	Alopecurus	Lolium	Chenopodium	Ipomoea	Stellaria
	125	30	70	30	70	20	0



invention Example 8

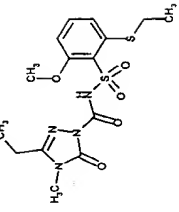


Table A-8

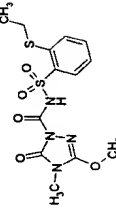
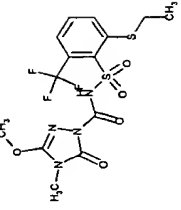
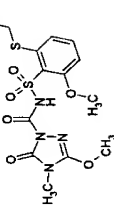
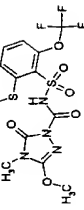
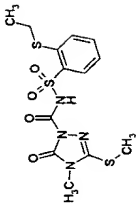
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Corn	Alopecurus	Bromus	Amaranthus	Solanum	Stellaria	Viola
	60	50	80	70	80	40	0	30
invention Example 13 	60	0	-	90	100	95	90	100
invention Example 30 	60	0	100	100	100	100	100	100
invention Example 40 	60	5	100	-	100	100	95	100

Table A-9

pre-emergence / greenhouse	g ai/ha	Barley	Wheat	Sorghum	Chenopodium	Galium	Polygonum	Solanum
according to formula (I) of US 5,057,144	60	60	30	20	80	60	0	40
(I) 								

invention Example 14 	60	0	0	80	100	100	90	90
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Table A-10

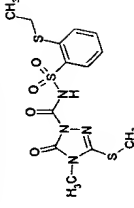
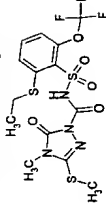
pre-emergence / greenhouse	g ai/ha	Barley	Soy beans	Alopecurus	Chenopodium	Solanum	Xanthium
according to formula (I) of US 5,057,144	60	60	60	40	80	40	0
							
invention Example 41 	60	0	0	100	100	100	100

Table A-11

pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Alopecurus	Cyperus	Setaria	Abutilon	Galium
	250	80	30	0	0	40

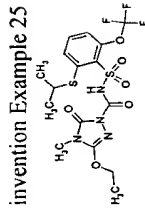
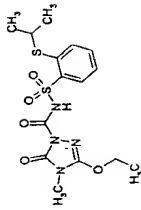


Table A-12

pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Cotton	Alopecurus	Bromus	Lolium	Sorghum	Chenopodium	Solanum
	60	0	70	70	0	80	30	60

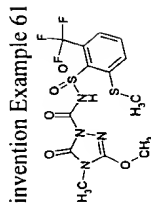
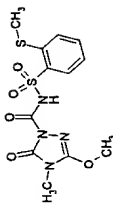


Table A-13

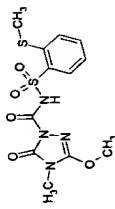
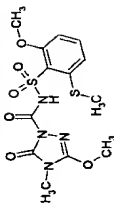
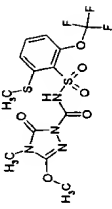
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Alopecurus	Bromus	Lolium	Sorghum	Chenopodium	Solanum	Viola
	60	70	70	0	80	30	60	0
invention Example 21 	60	100	100	100	100	100	100	100
invention Example 32 	60	100	95	100	100	100	95	90

Table B-6

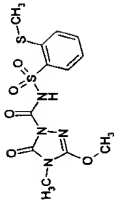
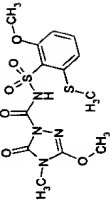
post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Alopecurus	Lolium	Abutilon	Datura	Stellaria	Veronica
	15	20	10	30	70	80	70
invention Example 21 	15	90	90	90	100	100	95

Table A-14

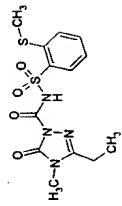
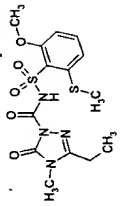
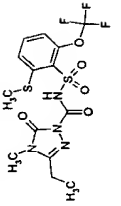
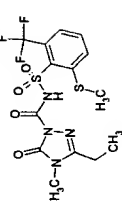
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Alopecurus	Bromus	Lolium	Sorghum	Abutilon	Galium	Veronica
	125	70	0	0	0	60	50	50
invention Example 22 	125	100	100	100	80	90	80	100
invention Example 34 	125	100	95	95	90	100	-	-
invention Example 63 	125	100	100	100	100	100	90	-



Table A-15

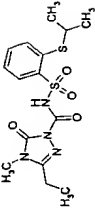
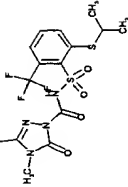
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Avena fatua	Cyperus	Abutilon	Galium
	250	20	40	0	30
invention Example 74	250	90	90	95	95
					

Table A-16

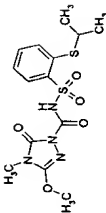
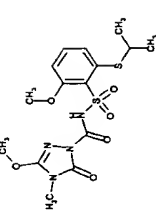
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Corn	Sugarbeets	Alopecurus	Setaria	Amaranthus	Sinapis
	250	30	70	80	30	60	80
invention Example 24	250	10	100	100	90	100	100
	250	10	90	100	-	-	100
invention Example 27	250	10	90	100	-	-	100

Table A-17

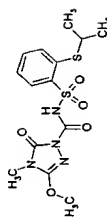
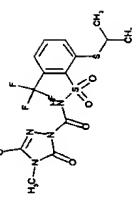
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Cyperus	Setaria	Abrutlon	Amaranthus	Galium	Sinapis
 invention Example 72	250	30	30	60	60	30	80
 invention Example 73	250	100	100	100	90	100	95

Table A-18

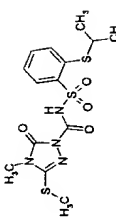
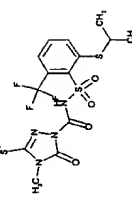
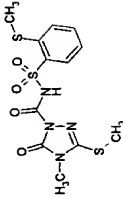
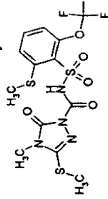
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Alopecurus	Cyperus	Setaria	Abrutlon	Amaranthus
 invention Example 72	250	60	40	20	30	0
 invention Example 73	250	80	80	95	95	100

Table A-19

pre-emergence / greenhouse	g ai/ha	Wheat	Corn	Alopecurus	Sorghum	Chenopodium	Matricaria
according to formula (I) of US 5,057,144	60	30	50	70	0	60	80



invention Example 33



invention Example 51

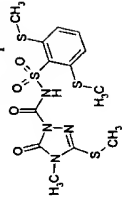
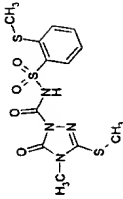


Table B-7

post-emergence / greenhouse	g ai/ha	Wheat	Matricaria	Stellaria	Viola	Xanthium
according to formula (I) of US 5,057,144	60	50	0	40	20	80



according to formula (I) of US 5,057,144	60	10	90	90	90	95
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Table B-8

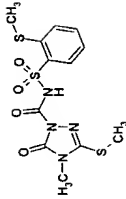
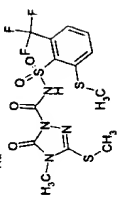
post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Sorghum	Cassia	Polygonum	Stellaria	Xanthium
	60	70	0	40	40	80
invention Example 113 Na <sup>60</sup>	60	95	90	95	95	95
						

Table A-20

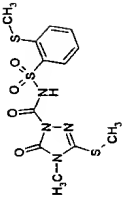
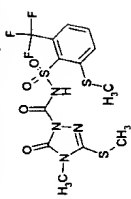
pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Wheat	Corn	Bromus	Cyperus	Lolium	Chenopodium	Solanum
	60	30	50	50	0	40	60	80
invention Example 62	60	0	10	100	100	100	100	100
								

Table B-9

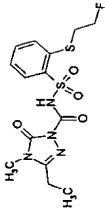
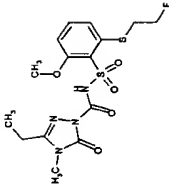
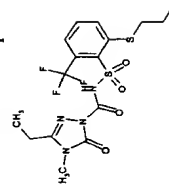
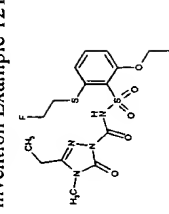
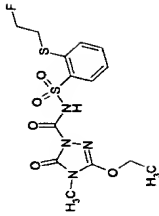
post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Abutilon	Chenopodium	Matricaria	Stellaria	Viola	Xanthium
	60	50	50	50	60	80	50
invention Example 58	60	80	80	95	90	95	-
	60	80	90	95	90	-	90
invention Example 70	60	90	-	100	95	100	95
	60	95	90	100	100	100	95
invention Example 121	60	95	90	100	100	100	95
	60	95	90	100	100	100	95
invention Example 126	60	95	90	100	100	100	95

Table A-21

pre-emergence / greenhouse	g ai/ha	Cyperus	Lolium	Abutilon	Cassia	Ipomoea	Polygonum	Stellaria
according to formula (I) of US 5,057,144	30	70	60	30	20	0	70	40



invention Example 59

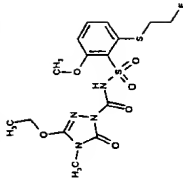


Table B-10

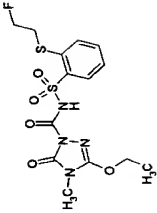
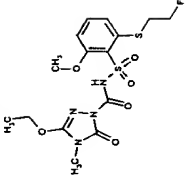
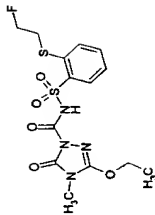
post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Lolium	Cassia	Polygonum	Viola	Xanthium
	15	50	50	70	80	30
invention Example 59 	15	90	80	90	95	95



Table B-11

post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Bromus	Ipomoea	Polygonum	Viola	Xanthium
	60	70	30	70	80	80



invention Example  
127

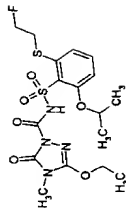
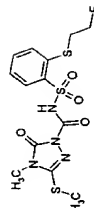


Table B-12

post-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Abutilon	Chenopodium	Matricaria	Polygonum	Veronica	Viola
	30	50	50	70	60	50	70



invention Example 129

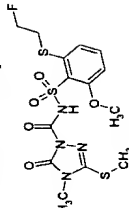


Table B-13

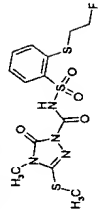
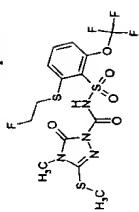
post-emergence / greenhouse	g ai/ha	Wheat	Corn	Abutilon	Cassia	Matricaria	Veronica	Viola
according to formula (I) of US 5,057,144	30	40	80	50	70	70	50	70
								
invention Example 66	30	10	10	80	90	95	90	90
								

Table A-22

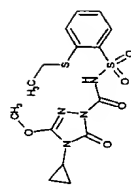
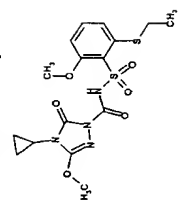
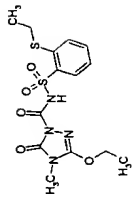
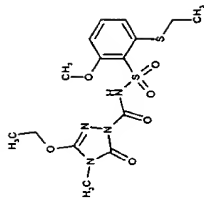
pre-emergence / greenhouse	g ai/ha	Alopecurus	Avena fatua	Cyperus	Abutilon
according to formula (I) of US 5,057,144	250	70	70	40	70
					
invention Example 82	60	100	90	95	95
					

Table A-23

pre-emergence / greenhouse according to formula (I) of US 5,057,144	g ai/ha	Corn	Lolium	Ipomoea	Viola
	125	95	80	50	80




invention Example 7



The undersigned declarant hereby declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

23.08.02  
Date

  
Dr. Mark W. Drewes